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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,054	03/27/2004	George A. Mitchell	40032-8	9530

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EXAMINER

SUHOL, DMITRY

ART UNIT PAPER NUMBER

3725

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/811,054

Applicant(s)

MITCHELL ET AL.

Examiner

Dmitry Suhol

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 13-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 13-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's arguments regarding the restriction of claim 21 is found persuasive and the claim will be examined with the remainder of the claims elected by the applicants.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 13, 17-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 5, there is no antecedent basis for "said step of contacting an internal wall".

Regarding claims 13 and 18, there is no antecedent basis for "said step of using said contoured die to form a conical transition" and "the step of using said conuored die to form two spaced apart conical transitions", respectively.

Regarding claim 17, the limitation "metal tube is rectangular" contradicts with the parent claim 1 which calls for a tube diameter thus implying that the tube is round/cylindrical. Furthermore, the term tube implies a cylindrical structure.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 16 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Meredith '576. Meredith discloses an apparatus and method for the manufacture of tubes having two different diameters and their respective ends (figure 2D) containing all of the claimed elements including with reference to claims 1 and 21, drawing a metal tube only partly through a contoured die without producing an appreciable increase to the wall thickness (col. 3, lines 38-46) where it should be noted that lacking any clear structurally distinguishing features the tube shown in figures 2C and 2D is read onto "an automotive panel support beam". Meredith further discloses the step of selecting a starting metal tube having a uniform wall thickness along the length thereof and a constant outside diameter substantially the same as desired for producing a first constituent of length, as required by claims 1 and 21, in col. 2, lines 58-61 and in figures 2C and 2D. The use of only tensile forces to apply contact pressure, as required by claim 2, are taught in col. 2, lines 46. The tube being round, as required by claim 16, is shown in figure 2a.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-9, 17, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Staples '016 in view of Meredith '576. Staples discloses an apparatus and method for the manufacture of tubes having two different diameters (figure 1) containing most of the claimed elements including with reference to claims 1 and 21, drawing a metal tube only partly through a contoured die without producing an appreciable increase to the wall thickness (figures 3-4 and page 1, lines 10-13) where it should be noted that lacking any clear structurally distinguishing features the tube shown in figure 1 is read onto "an automotive panel support beam". The limitations of claim 2 are shown in figure 3. A step of working the metal concurrently with the step of drawing to form a second length, as required by claim 3, is shown in figures 3-4. The limitations of claim 6 are shown in figures 1, 3-4. A mandrel as required by claim 5, is shown in figure 2.

Although Staples does not explicitly teach the step of selecting a starting metal tube having a uniform wall thickness along the length thereof and a constant outside diameter substantially the same as desired for producing a first constituent of length as required by claims 1 and 21. However, Meredith is relied upon to teach that it is known to perform a drawing process on a metal tube where selecting a starting metal tube (col. 2, lines 58-61) having a uniform wall thickness (20) along the length thereof and a

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constant outside diameter (21) substantially the same as desired for producing a first constituent of length (figures 2C and 2D) for the purpose of reducing the metal working steps needed to arrive at the finished product thereby reducing costs and increasing efficiency. Therefore it would have been obvious to one having ordinary skill in the art, at the time of the claimed invention, to have included the step of selecting a starting metal tube having a uniform wall thickness along the length thereof and a constant outside diameter substantially the same as desired for producing a first constituent of length in the method of Staples for the purpose of reducing the metal working steps needed to arrive at the finished product thereby reducing costs and increasing efficiency.

Regarding claim 7, the step of cutting the work piece to arrive at a desired aggregate length would have been obvious since the examiner takes official notice that such method steps are notoriously well known in the art for the purpose of providing a product with the desired length/dimensions.

Regarding the steps of forming a push pointed end segment and severing the segment following the step of drawing, as required by claims 8 and 9, it would have been obvious to include such steps with the method steps of Staples since such method step all well known in the art for the purpose of drawing a tube through a contour die and discarding unwanted gripped end of the tube.

Regarding claim 17, as best understood it would have been obvious to utilize a metal tube which is rectangular since it would only depend on the desired shape of the final finished tube and since applicants do not disclose any advantage or criticality to the

shape of the metal tube being rectangular, square or cylindrical (see applicants specification).

Claims 1, 3-5, 8-9, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stump '541 in view of Staples '016 and Meredith '576. Stump discloses a method for reducing a diameter and wall thickness of a tubular body (figure 3 and cols. 3-4, lines 65+ and 1, respectively) through the step of drawing and the use of a mandrel as required by claims 1, 3-5. The tube being welded steel, as required by claim 15, is disclosed in col. 3, line 65. It should be noted that lacking any clear structurally distinguishing features the tube shown in figure 3 is read onto "an automotive panel support beam".

Staples is relied upon to teach that it is known to draw a metal tube only partly through a contoured die in order to manufacture a piece with a large and small diameter end. Therefore it would have been obvious to draw the tube of Stump only partially through a die for the purpose of producing a tube with a large and small diameter end, since such construction would only depend upon the use of the drawn tube.

Meredith is relied upon to teach that it is known to perform a drawing process on a metal tube where selecting a starting metal tube (col. 2, lines 58-61) having a uniform wall thickness (20) along the length thereof and a constant outside diameter (21) substantially the same as desired for producing a first constituent of length (figures 2C and 2D) for the purpose of reducing the metal working steps needed to arrive at the finished product thereby reducing costs and increasing efficiency. Therefore it would

have been obvious to one having ordinary skill in the art, at the time of the claimed invention, to have included the step of selecting a starting metal tube having a uniform wall thickness along the length thereof and a constant outside diameter substantially the same as desired for producing a first constituent of length in the method of Stump for the purpose of reducing the metal working steps needed to arrive at the finished product thereby reducing costs and increasing efficiency.

Regarding the steps of forming a push pointed end segment and severing the segment following the step of drawing, as required by claims 8 and 9, it would have been obvious to include such steps with the method steps of Staples since such method step all well known in the art for the purpose of drawing a tube through a contour die and discarding unwanted gripped end of the tube.

Claims 1, 8-9, 13, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alexoff '080 in view of Staples '016. Alexoff discloses a push point drawing method for forming tubing with reduced diameter which teaches drawing a metal tube through a contoured die without producing an appreciable increase to the wall thickness (figures 3B-3D) where it should be noted that lacking any clear structurally distinguishing features the tube shown in figures 3B and 3D is read onto "an automotive panel support beam". Meredith further discloses the step of selecting a starting metal tube having a uniform wall thickness along the length thereof and a constant outside diameter substantially the same as desired for producing a first constituent of length, as required by claim 1, figure 3A. Forming a push pointed end

segment, as required by claim 8, is shown in figures 3B-3D. Contoured dies to form conical sections, as required by claims 13 and 18-19 are shown in figure 3D as dies 118, 120, and 122, where the conical transition formed by die 122 is spaced apart from the conical section formed by die 118.

Staples is relied upon to teach that it is known to draw the tube only partially through the die for the purpose of forming a tube with a large and small diameter end (figure1). Therefore it would have been obvious to only draw the tube of Alexoff partially through the die in order to form a tube with a large and small diameter end.

Regarding the step of severing the push pointed end segment, as required by claim 9, it would have been obvious to include such a step in the method of Alexoff for the purpose of disposing the deformed end segment since the examiner takes official notice that such steps are well known in the art.

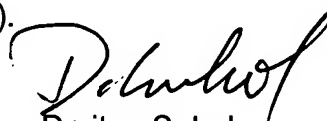
Regarding the angle range as required by claims 13, 19-20 it would have been obvious to incorporate the such an angle range in the method of Alexoff since it would only depend on the final desired tube reduction and shape. Furthermore such a range is considered a design choice in that applicants do not disclose any criticality or advantage to such an angle range (see applicants specification).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Suhol whose telephone number is 571-272-4430. The examiner can normally be reached on Mon - Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Dmitry Suhol
Primary Examiner
Art Unit 3725

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